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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,264

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Marco Daher

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EXAMINER

WIECZOREK, MICHAEL P

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

10/28/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/524,264	DAHER ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Michael Wieczorek	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-17 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) 2 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-14,16,17 and 20-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status of the Application***

By amendment filed August 5<sup>th</sup>, 2008 claims 4, 18 and 19 have been cancelled, claims 1, 3, 5 through 14, and 16 and 17 have been amended, claims 20 through 22 are new and claims 2 and 15 have been withdrawn from consideration. Claims 1 through 3, 5 through 17 and 20 through 22 are currently pending.

### ***Response to Arguments***

1. Applicant's arguments with respect 102(b) and 103(a) rejections with respect to claims 1, 3 through 14 and 16 and 17 have been considered but are moot in view of the new ground(s) of rejection based on new prior art. Applicant's arguments with respect to 112 rejections of the claims 1, 3 through 14 and 16 and 17 have been fully considered and are persuasive. The 112 rejections have been withdrawn in view of the arguments and amendments made to the claims.

### ***Claim Objections***

2. Claims 1, 3, 5-14, 16-17 and 20-22 objected. Both claims 1 and 20 recite the limitations "glue valves" and "the valves". It is requested the names of the limitations are consistent throughout the claims. Furthermore, the limitations "second glue reservoir" and "second reservoir", as well as "third glue reservoir" and "glue reservoir", are used interchangeably throughout the claims. For consistency it is requested that the claims be amended so that the terms match.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 5, 7-11, 14, 16 rejected under 35 U.S.C. 102(b) as being taught by over Kunkel et al (U.S. Patent # 4,420,510).

Kunkel et al teaches an apparatus for dispensing adhesive or glue onto a substrate comprising a first glue reservoir from which a glue is supplied in the form of hold tank 10 (Column 5 Lines 53-56 and Figure 2), glue lines which transport the supplied glue in the form of adhesive supply line 20 (Column 5 Lines 60-68 and Figure 2), glue outputs in the form of extrusion nozzles 46 (Column 6 Lines 28-30 and Figure 2), a second glue reservoir in the form of upper body member 100 (Column 7 Lines 35-41 and Figure 4), and a third glue reservoir in the form of foamer 37 which is situated downstream of the first glue reservoir or hold tank 10 and upstream of the second reservoir or upper body member 100, which is a part of extrusion head 44 (Figure 2). Furthermore, the foamer 37 is configured to supply the glue to the second reservoir in a pressurized state (Column 6 Lines 5-26 and Figure 2).

Kunkel et al further teaches that the second reservoir communicates with three valves, valves 22, 41, and 60 (Column 6 Lines 25-30, Column 7 Lines 35-61 and Figure 2). An the opening and closing of these valves define the glue profile in that when they are open glue flow onto the substrate to be coated and a glue profile is produced and when the valves are closed glue doesn't flow onto the substrate and no glue profile is produced.

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As for claim 3, based on Figure 2 of Kunkel et al the pressure of the adhesive leaving the third reservoir or foamer 37 is 700 kPa and the adhesive has a pressure of 300 kPa as it enters the second reservoir or upper body member, which is a part of extrusion head 44. Thus Kunkel et al teaches that the pressure in the third reservoir is under a higher pressure than in the second reservoir.

As for claim 5, Kunkel et al teaches that the apparatus comprises a pressure regulator in the form of valve 41 (Figure 2). The valve 41 is configured to open and close the connection between the third reservoir, the foamer 37, and the extrusion head 44 of the apparatus where the second reservoir is located (Column 8 Lines 21-24). Valve 41 is considered a pressure regulator because the opening and closing of the valve 41 determines the pressure of the adhesive entering the second reservoir (Column 8 Lines 25-29 and 51-61), thus it regulates pressure.

As for claim 7, Kunkel et al teaches that between the first reservoir and the third reservoir is an adhesive-metering pump 30 (Figure 2) and Figure 2 of the reference teaches that adhesive entering the adhesive-metering pump 30 is at 300 kPa and the pressure of the adhesive leaving the pump and entering the third reservoir or foamer 37 is 600 kPa. Thus Kunkel teaches a pump which is configured to deliver glue into the third reservoir in a pressurized state.

As for claim 8, Kunkel et al teaches that the foamer 37 or third reservoir is connected to a pressure reservoir in the form of adhesive pressure line 35 and pressure regulator 36 (Column 6 Lines 5-8 and Figure 2). This is considered a pressure reservoir because it is the source of the pressure used to pressurize and foam the adhesive in the third reservoir.

As for claim 9, as can be seen in Figure 2 of Kunkel et al the adhesive has a pressure of 600 kPa entering the foamer 37 or third reservoir and has a pressure of 700 kPa leaving the third

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reservoir. Thus there is a plurality of glue pressure levels connected in series within the third reservoir.

As for claims 10 and 11, Kunkel et al teaches that the apparatus comprises a depressurization valve in the form of slide valve 60 which is in communication with the second reservoir located in the extrusion head 44 (Column 6 Lines 41-46). This slide valve controls the communication of the second reservoir and the extrusion nozzles 46 which are open to the atmosphere. Thus the slide valve 60 can be configured by opening and allowing the second reservoir to connect with the extrusion nozzles 46 and thus allow the second reservoir to depressurize to atmospheric pressure.

As for claim 14, Kunkel et al teaches that there are pressure meters in the form of pressure sensor 32 and pressure sensor 42 provided with the third reservoir or foamer 37 and second reservoirs located in extrusion head 44 respectively (Column 6 Lines 3-5 and 26-30, Figure 2).

As for claim 16, Kunkel et al teaches that the apparatus further comprises glue and cleaning medium discharge lines and a vessel which is in communication with the second reservoir, which is part of extrusion head 44 (Column 6 Lines 51-61, Figure 2).

In the case of claim 20, it is rejected for the same reasons discussed in the rejection of claims 1 and 7.

As for claim 21 it is rejected for the same reasons as claim 5.

As for claim 22 it is rejected for the same reasons as claim 3.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kunkel et al.

The teachings of Kunkel et al as they apply to claim 5 have been discussed previously (see 102 rejection). As was discussed in the claim 5 rejection Kunkel et al teaches a pressure regulator that includes a valve between the second and third glue reservoirs configured to open and close the connection between the two reservoirs. Kunkel et al does not teach that the opening and closing time of the valve is less than 5 ms but it would be obvious for it to do so.

Kunkel et al teaches that during a shut-down of the apparatus the valve 41 is closed in order to stop the flow of adhesive into the extrusion head, where the second reservoir is located (Column 8 Lines 21-24). Kunkel et al further teaches that during the shut-down any residual adhesive that resides between valve 41 and the slide valve 60, which is where the second reservoir is located, is recycled (Column 8 Lines 40-45). Thus it would be obvious to one of

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ordinary skill in the art that the amount of residual adhesive that enters the second reservoir during a shut-down, and thus has to be recycled, can be minimized by increasing the speed with which valve 41 closes. Thus it would be obvious to one of ordinary skill in the art to have a valve that can close, as well as open, in a time less than 5 ms in order to minimize the amount of residual adhesive that has to be recycled.

At the time the present invention was made it would be obvious to one of ordinary skill in the art that the valve included with the pressure regulator open and close in a time less than 5 ms. The quicker the valve 41 opened and closed the less amount of residual adhesive that would remain in the second reservoir during shut-down which would mean that there would be less adhesive that would have to be recycled before the system started up again. Thus it would be obvious to one of ordinary skill in the art to have a valve that can close, as well as open, in a time less than 5 ms in order to minimize the amount of residual adhesive that has to be recycled.

8. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunkel et al, as applied to claim 1 above, and further in view of Boger et al (U.S. Patent # 4,687,137).

The teachings of Kunkel et al as they apply to claim 1 have been discussed previously (see 102 rejection) and Kunkel et al does further teach that the apparatus comprises a glue discharge system which comprises a glue recirculation line in the form of line 69 and return line 72 which conveys the glue from the second reservoir to the first glue reservoir (Column 6 Lines 62-68 and Figure 2).



Kunkel et al does not however explicitly teach an embodiment capable of controlling the glue flow without flowing glue through the plurality of valves (valves 22, 41, and 60), as described for claim 1 above.

Boger et al teaches a adhesive dispensing system comprising a plurality of valves, referred to in the reference as dispensing valves 70, 72, 74 and 78 which can be used to form a glue profile based on the selective opening and closing of these valves (Column 1 Lines 6-10, Column 8 Lines 50-68, Column 9 Lines 1-11 and 51-62 and Figure 1 and 2).

Thus based on the teachings Boger et al it would have been obvious to one of ordinary skill in the art at the time the present invention was made that by placing a valve upstream of the each extrusion nozzle 46 of Kunkel et al a glue profile can be formed on a substrate based on the selective opening of each valve. It would be obvious to one of ordinary skill in the art that by selectively opening and closing the valves attached to each extrusion nozzle different glue profiles can be formed by the taught apparatus pertaining to what type of substrate is to be coated.

Furthermore, since it is obvious to have a plurality of valves to control the flow of adhesive out of the extrusion nozzles it would have inherent that the second reservoir in the form of upper body member 100 would communicate with the valves since the second reservoir communicates with the extrusion nozzles.

Thus based on Kunkel et al in view of Boger et al the references teach that the second reservoir is in communication with a plurality of valves located above the extrusion nozzles, which define the glue profile and that the glue can be discharged from the second reservoir without passing though these valves.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kunkel et al in view of Boger et al as applied to claim 1 above, and further in view of Cone et al (U.S. Patent # 3,965,860).

The teachings of Kunkel et al in view of Boger et al as they apply to claim one have been discussed previously. Kunkel et al teaches a apparatus for applying foamed adhesive to a substrate and is used in the manufacture of plywood (Column 1 Lines 6-17). As discussed previously Kunkel et al teaches that the apparatus comprise a first reservoir in the form of a hold tank 10 and this reservoir receives glue from a mixing tank (Column 5 Lines 53-56). Neither Kunkel et al nor Boger et al teach that the first reservoir has a agitator to mix the ingredients for forming the glue.

Cone et al teaches an apparatus for applying foamed glue to a substrate that is used in the manufacturing of plywood (Abstract, Column 1 Lines 10-15). The apparatus taught by Cone et al comprises a first reservoir in the form of a unit 14 which comprises an inline mixer meaning that the unit 14 has an agitator or mixing component that can mix the ingredients that form the glue (Column 2 Lines 63-68, Column 3 Lines 1-2 and Figure 2). Cone et al teaches that the advantage of having the first reservoir or unit 14 comprise a inline mixer is that glue is freshly mixed and has a constant age when it reaches both the foaming unit and the surface to be coated (Column 3 Lines 3-11).

At the time the present invention was made it would have been obvious to one of ordinary skill in the art to include within the first reservoir of Kunkel et al an agitator or inline mixer as taught by Cone et al so that the glue or adhesive that is foamed and applied to the

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substrate is fresher than glue that would have been sitting in a holding tank or storage tank. As taught by Cone et al, freshly mixing the glue within the first reservoir allows for consistent age and quality of the glue that is being foamed and applied to the substrate.

### ***Conclusion***

Claims 1, 3, 5 through 14, 16 through 17, and 20 through 22 have been rejected. Claims 2 and 15 have been withdrawn as being related to non-elected species. No claims were allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Wieczorek whose telephone number is (571)270-5341. The examiner can normally be reached on Monday through Friday; 7:30 AM to 5:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on (571)272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MPW/

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/Michael Wieczorek/  
Examiner, Art Unit 1792

/Michael Cleveland/

Supervisory Patent Examiner, Art Unit 1792